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Authoring-Systems Software for Computer-Based Training

William D. Milheim
The Pennsylvania State University
EDITOR

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Chapter 8

TenCORE Producer

David R. Fall, III

Analysis & Technology, Inc.

Basic Information

Software Availability

Product Name:	TenCORE Producer
Computer Platform:	IBM and Compatibles
Version Number:	1.22
Producer:	Computer Teaching Corporation
Address:	1713 South State Street Champaign, IL 61820
Telephone:	217-352-6363
Retail Price:	$1,800.00
Educator Price:	Discounts available

Hardware Requirements—Minimum

CPU Speed:	8086 processor
RAM Size:	512K
Hard Drive Space	2.6 MB
Display Required:	CGA
Standard Peripherals:	Standard keyboard, mouse

Hardware Requirements—Recommended

CPU Speed:	80386 processor
RAM Size:	640K
Hard Drive Space:	20 MB
Display Required:	VGA
Additional Peripherals:	Scanner, video digitizer Laserdisc player/monitor

Software Requirements

System Software: DOS 3.1 or higher

Supporting Materials

The documentation provided with Producer includes a comprehensive, 500-page, easy-to-read manual. The manual contains detailed descriptions of all functions and procedures with simple examples as illustrations, as well as a step-by-step, hands-on tutorial, which can greatly decrease learning time. TenCORE also provides the Image Editor reference guide supporting the graphical package, Dr. Halo, which accompanies the Producer system. Online help is available allowing a learn-as-you-go approach.

The TenCORE Hotline provides a back-up layer of support. It is available during normal business hours, and is staffed by highly capable TenCORE experts. Assistance is provided for problems with the TenCORE family of products as well as difficulties with other products supported by TenCORE. The people at the hotline are easy to talk to and carefully avoid intimidating the caller.

TenCORE Producer comes with its own fully functional paint package. With this image editor, extensive bitmapped images can be created in resolutions up to and including SVGA. It also supports importation of the .PCX file format available from most popular paint programs such as PC Paintbrush and Deluxe Paint.

The TenCORE product line includes the TenCORE Language Authoring System (LAS)—Version 4.2 and TenCORE Computer Managed Instruction (CMI)—Version 4.2. Though Producer has all the tools to create professional quality courseware, the addition of LAS and CMI provide added power, flexibility, and course control, and are highly recommended.

General Description

TenCORE Producer is a fully-functional, WYSIWYG (what-you-see-is-what-you-get) authoring tool. It is mouse driven. Utilizing pull-down menus and pop-up windows, the author points and clicks to create lessons one screen at a time. Typing is minimal. In most cases, input is achieved through object oriented, point-and-click windows. The major characteristics of Producer are:

Total Course Management. Producer includes simple processes to create and organize a course for delivery.

Total Lesson Management. Each lesson is a separate file which can be easily copied to another file, edited, printed, deleted, or executed all from one main menu.

Lesson Editing. A lesson consists of a series of units typically representing individual screens with which the student will interact. From a main menu, units can be created, executed, copied, renamed, reordered, and/or deleted. From the same menu, images can be accessed, lesson-wide defaults can be set or modified, and branching between units can be checked.

Unit Editing. The "canvas" of Producer, the unit editor, represents the screen as the student will see it. Within the unit editor are two menus, a pull-down function menu bar, and a point-and-click tool/color bar. These provide all the necessary functions to draw graphics, place text, color areas, display

video, import images, show animation, and many more actions a designer might require in a lesson. A wide variety of "flow" options can be selected to direct the student down the intended path.

Graphics. Besides the vector graphics that the author can draw from the *Unit Editing* screen (such as lines, boxes, circles, etc.), Producer provides a bitmapped image editor to allow the creation, importation, and editing of full-screen, bitmapped images. Though not as sophisticated as some of the more popular graphic packages, the TenCORE image editor provides all the tools required to create and/or edit images.

Animation. Simple animation can be created easily in Producer by "grabbing" an object on the display, and selecting its destination. Speed and smoothness can be controlled with selections from the pop-up menu. In Version 2.0, full-sprite, multiple-character animation is available with a variety of features enabling the author to create sophisticated animation routines.

Video. Access to videodisc players is available with a point and a click. The author may choose still frames or motion video from the Video Edit window, one of the handiest features of the product. The Video Edit window allows the author to scan forward and backward, jump to specific frames, and/or modify the speed, transparent color, and audio channels, which greatly simplifies the task of locating a desired frame on the disc. Complete support is also provided for the DVA-4000 by Videologic and the M-Motion Video Adapter/A by Tecmar, two video digitizing cards, which provide enhanced video manipulation. Features available with these separately purchased cards include cropping, resizing the display window, fading the graphics, audio, and/or video, freezing a frame on the screen and playing audio from another location on the disc, and saving a video image to a file for use in later units and/or lessons.

Activity Manager. The Activity Manager and Student Router allows the instructor to select lessons for students to take, roster the students for selected lessons, and control and monitor student progress through the courseware. The instructor has access to a variety of information, such as individual student progress, times and dates the courseware was accessed, and summary information by classes.

Basic Authoring Procedures

Lessons are the common name for Producer files. The name given these lessons within Producer is also the DOS name with a "TPR" extension added. Lessons are composed of linked units. When a lesson is executed, flow begins at the first unit (unless otherwise directed) and moves sequentially through the list of units (unless redirected by a branch). Certain basic branches are pre-programmed by Producer. These are referred to as default branches. Examples of these are: **Forward**—to the next unit in the sequence; **Back**—to the unit prior to the current unit in the sequence; and **Quit**—ending the lesson. These defaults can be modified to suit the needs of the lesson.

Lesson Options Screen

Following start-up, the first screen that appears is the **Lesson Options** screen (see Figure 1).

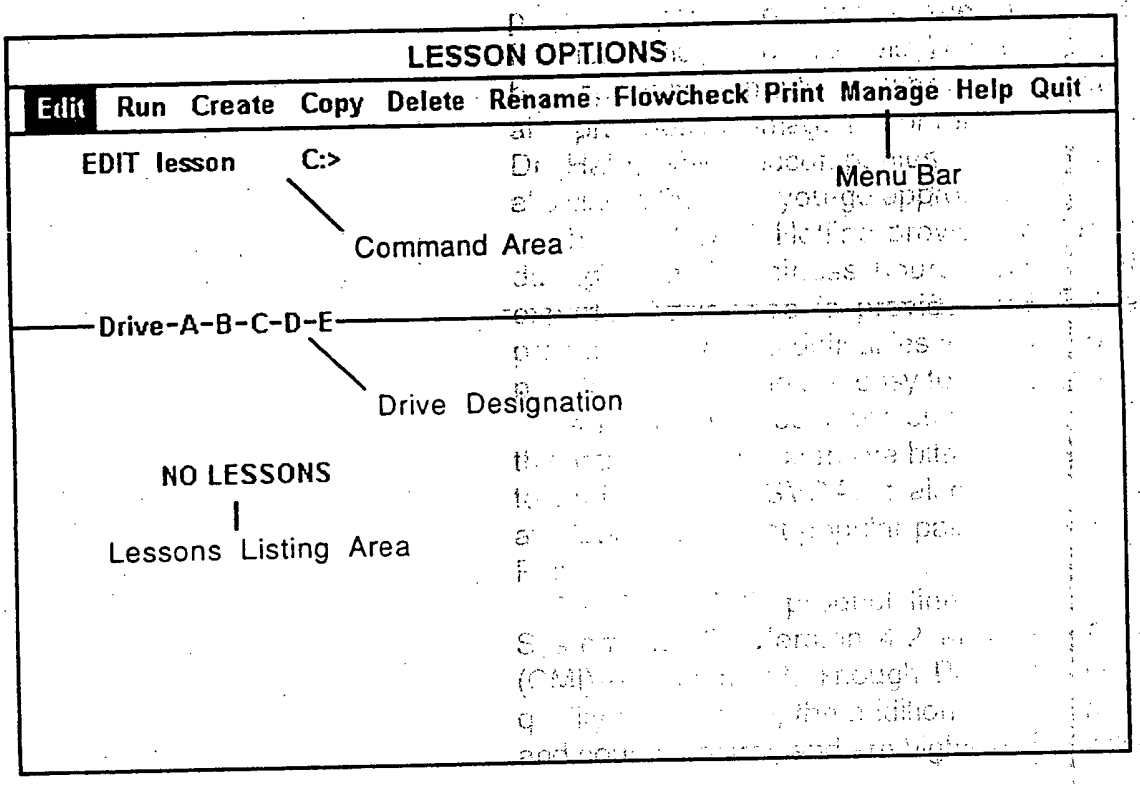

Figure 1. Lesson Options Screen.

There are four functional areas on this screen: (1) the Menu Bar, (2) the Command Area, (3) the Drive Designation, and (4) the Lessons Listing Area.

The Lesson Menu Bar displays the functions that can be performed at the lesson level. Lesson names are entered in the Command Area. The Drive Designation is the current drive that Producer is accessing. The Lesson Listing Area displays the Producer lessons located in the current directory.

An option is selected by clicking on the name with the left button of the mouse. The arrow keys may also be used to highlight the desired option; pressing the ENTER key will select it. All options involving lessons enable the author to click on the lesson name, or type it and press ENTER.

Creating and/or Editing a Lesson

Once Create or Edit is selected, a lesson name is typed, and ENTER is pressed, Producer takes the author to the **Unit Options** screen (see Figure 2).

This **Unit Options** screen is very similar in appearance to the **Lesson Options** screen, however, its purpose is the management of units for a particular lesson. It has the same functional areas as the **Lesson Options**

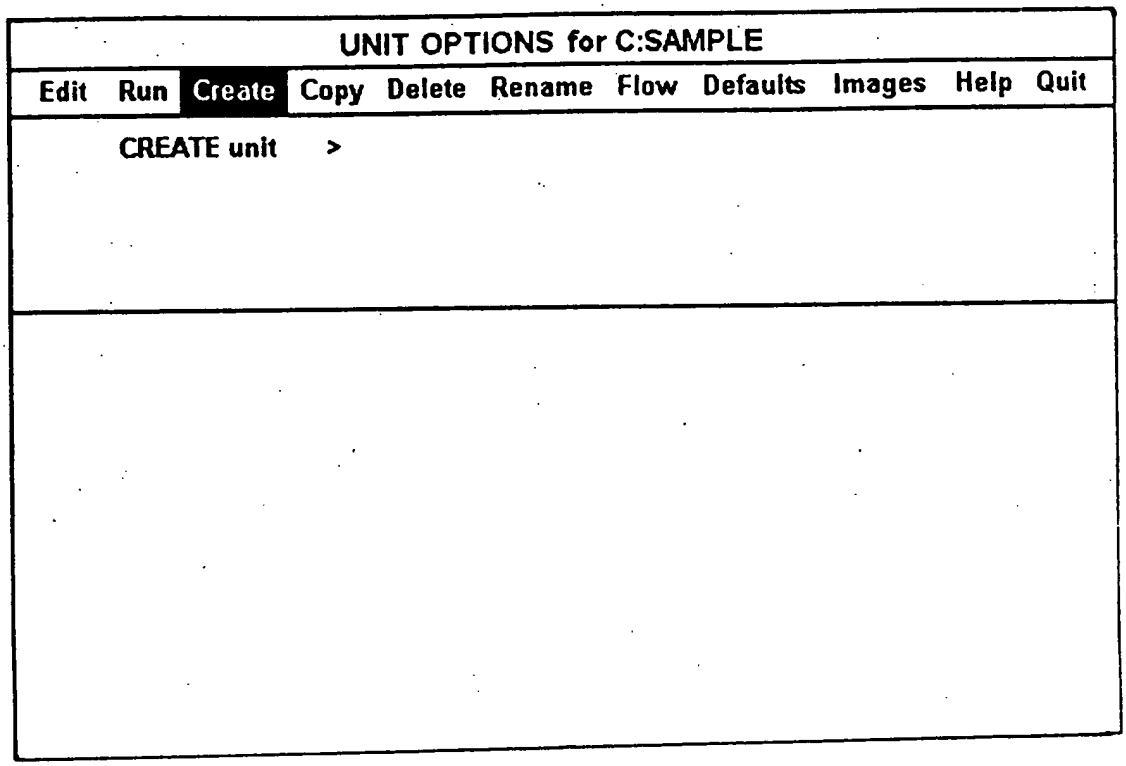

Figure 2. Unit Options Screen.

screen, each performing similar functions, except with units rather than lessons.

The options in the **Menu Bar** provide functions to manage units. These functions are described below:

- **Edit**—selects a unit to modify. The author selects Edit and then clicks on the name of the desired unit, and is taken to the **Unit Editing** screen.
- **Run**—prompts the author to enter a unit name to execute. After the name is typed and ENTER is pressed, Producer executes the unit just as the student would view it. The author may continue working through the lesson from here, or may press SHIFT-F1 to exit the execution of the unit and return to editing.
- **Create**—prompts the author to enter a new unit name.
- **Copy**—allows the author to copy unit(s) from other lessons to the current lesson.
- **Delete**—allows the author to delete units. A prompt is conveniently displayed warning the author that they are about to delete a unit, and asking if they are sure.
- **Rename**—allows the author to change the name of a unit.
- **Flow**—displays the branches for a particular unit as they are currently programmed.
- **Defaults**—allows the author to select features that will be in effect for the entire lesson. These include foreground and background colors, font

style and size, screen resolution, answer analysis methods, flow options, and several others.

- **Images**—accesses the **Image Edit** screen, where bitmapped images can be edited, created, modified, deleted, renamed, etc. Selecting Edit from this screen will take the author to the **Image Editor.**
- **Help**—provides online help for the **Unit Options** screen.
- **Quit**—exits the current lesson, returning the author to the
- **Lesson Options** screen.

Creating and/or Editing a Unit

Once Create or Edit has been selected, a unit name typed, and ENTER pressed, Producer takes the author to the **Unit Editing** screen (see Figure 3).

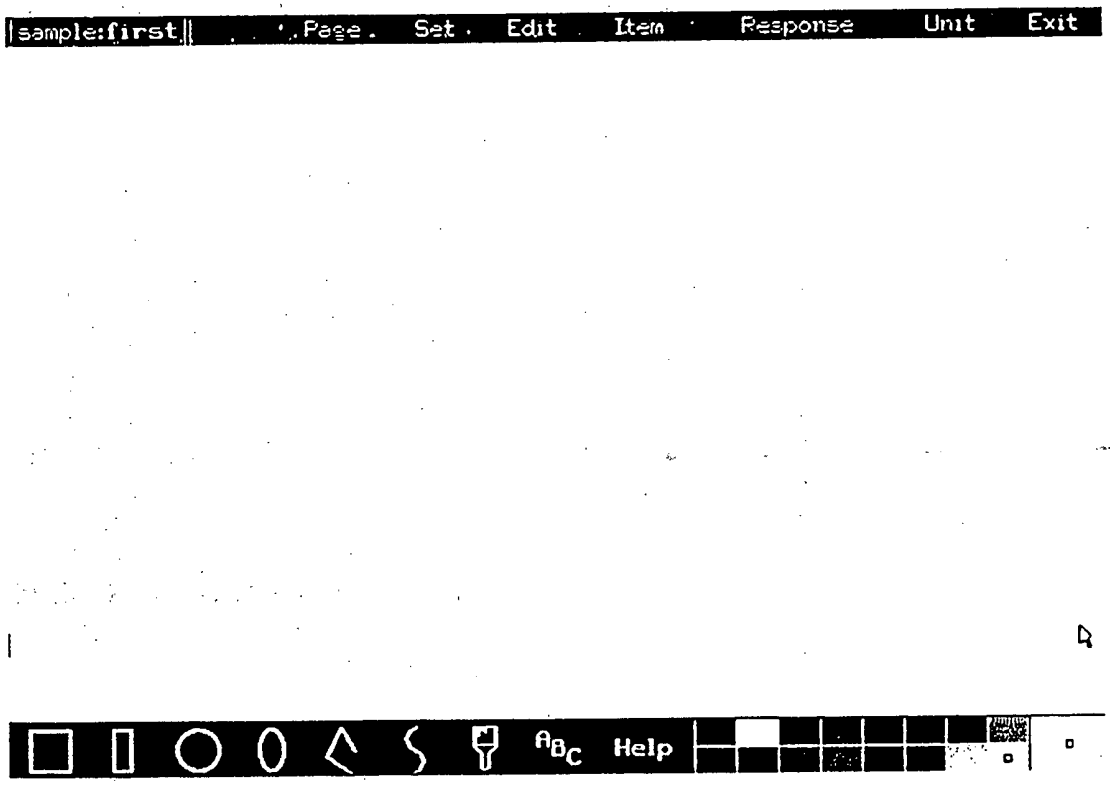

Figure 3. Unit Editing Screen.

The **Unit Editing** screen is where individual units are created. There are three main functional areas of the **Unit Editing** screen: (1) the Menu Bar, (2) the Graphical Tools, and (3) the Color Bar.

The Menu Bar consists of a series of pull-down menus, enabling the author to have access to the variety of features available from this screen. The Graphical Tools section is where the author selects tools to draw rectangles, squares, circles, etc. Finally, from the Color Bar, the author selects foreground colors to draw objects, or background colors to change the background.

In the following sections, some of the most common unit editing procedures are described.

Choosing a Color

To choose a foreground color, such as a color to display text or graphical figures, the author clicks with the left button on the color desired. If the color is the current default color, a prompt will appear as shown in Figure 4.

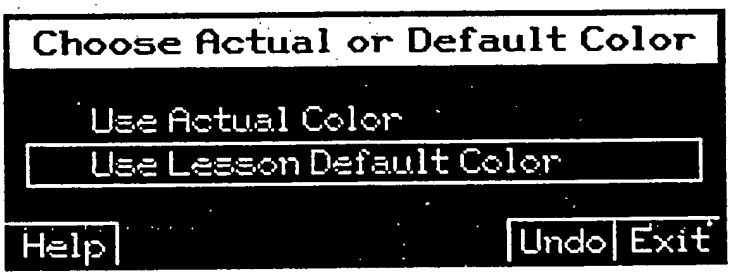

Figure 4. Default Color Prompt.

If the "lesson default" option is chosen, and then later the default foreground color is changed, the object or text created at this time will also change.

To choose a new background color, the author clicks with the right button on the desired color. A prompt will appear verifying the change. If accepted, the background on the screen will immediately change to the new color. In either case, the rectangles in the lower, right-most corner of the screen will reflect the selections, with the inner box representing the foreground color, and the counter box representing the background color (see Figure 5).

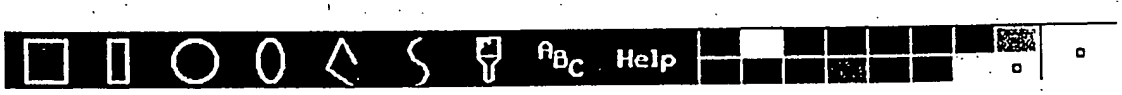

Figure 5. Color Bar

Creating Text

To display text on the screen, the author clicks on the "ABC" tool in the graphical tool area. The bar at the bottom of the screen will now resemble Figure 6.

Figure 6. Text Bar.

The cursor will change to a box. This box is sizable. To make it larger, the right button is held down and the mouse is moved to the right. When the box is large enough for the desired text, the author clicks on the left button. A cursor will appear, waiting for text to be typed. Text will wrap inside the box, and a beep will sound if the limits of the box are reached. Several functions are available from this screen, such as changing the color, style, and size of the text; repositioning and resizing the text window; and insertion and deletion. When the text is as desired, clicking on "Exit" will return to the **Unit Editing** screen.

Creating Graphics

To create line graphics (often known as vector graphics), the author clicks with the left button on the desired tool. The cursor will change to indicate which tool has been chosen, and it becomes sizeable. Just as with creating text, to size the graphic, hold down the right button and roll the mouse. When the desired size is achieved, the author clicks on the left button. At this point a pop-up window will appear (see Figure 7).

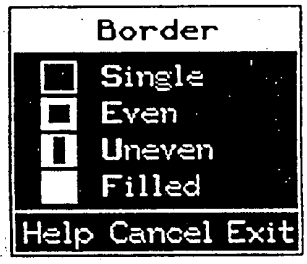

Figure 7. Graphic Dialogue Window.

The options in this window allow the author to determine the characteristics of the border of this graphical image. Once the desired border style is chosen, clicking on Exit will return to the **Unit Editing** screen.

Modifying Visible Objects on the Screen

Many times it is necessary to alter an object such as graphical image or a piece of text after it has been created. To do this the author must click on the "Edit" option from the menu bar. This pulls down the Edit Menu. Choosing "Modify" from this menu, the author will see the latest created object blink. It happens quickly, so concentration is critical. If this is the object needing modification, the author clicks on the right button to accept this object. The author is placed in the same creation screen as when the original object was created. Modifications should be made, and clicking on "Exit" will return to the **Unit Editing** screen.

If another object, other than the latest created, requires modification, the author, after choosing "Modify" from the Edit Menu, should click with the left button on the object to modify. The click must be made near the point at which the original object was begun. The object will blink. Once the desired

object is made to blink, clicking on the right button accepts this object, and modifying follows the same procedure described above. Version 2.0 incorporates an **Object Listing** which greatly simplifies this process.

Adding Items

To add an item, such as an image, animation, a call to another unit, and/or video, "Item" is selected from the Menu Bar. This pulls down the Item Menu (see Figure 8).

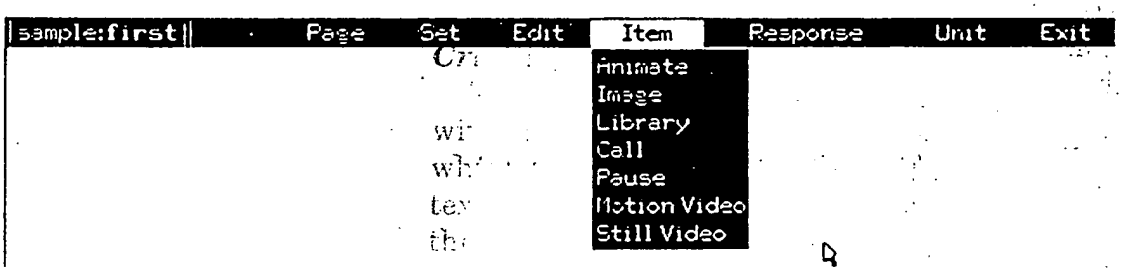

Figure 8. Item Menu.

An option is chosen by clicking on the name of the option on the pull-down menu. A pop-up window will prompt for additional information (see Figure 9). The author enters the required parameters, and clicks on Exit to return to the **Unit Editing** screen.

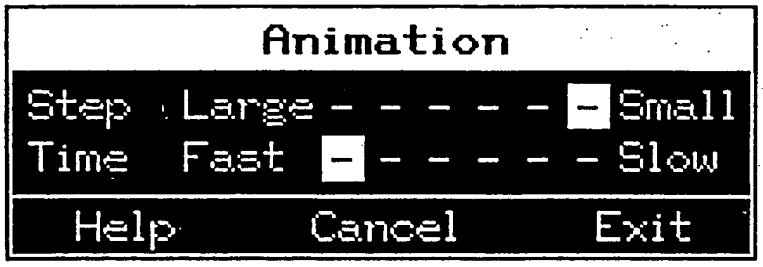

Figure 9. Additional Information.

Creating Questions and/or Menus

Question screens or menus are created through the "Response" option on the Menu Bar. Clicking on this option will pull down the Response Menu (see Figure 10).

The choices offered allow creation of menu branching screens with the "Menu" selection, true or false questions with "Alternates," multiple choice questions allowing key or mouse input with "Choice," fill-in-the-blank or short answer questions with "Word/Numbers," and locate questions utilizing the mouse with the "Pointing" option.

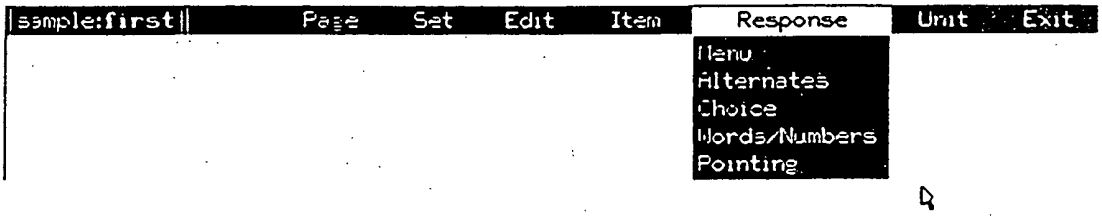

Figure 10. Response Menu.

Once a question scheme is selected, a pop-up window appears asking for more information. The author must choose which keys will be accepted, such as "a," "b," "c," and "d," which areas will be "active" for the user to click on the mouse as an alternative to pressing a key, which answers are judged "OK" (correct) and "NO" (incorrect), the immediate textual feedback to be given, if any, and the appropriate branching to take for individual answers. There are also some default values that must be selected including the automatic display of the words "OK" and "NO," the default color of the feedback, the number of tries allowed, the time limit before judging occurs, and the value of the question.

Setting the Flow (or Branching) for a Unit

Producer automatically provides a method for handling flow from one unit to another by means of a "flow bar" (see Figure 11).

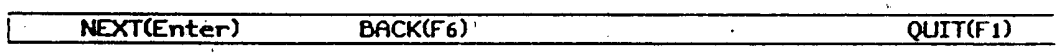

Figure 11. Flow Bar.

The terms NEXT(Enter), BACK(F6), and QUIT(F1) are the default values. They can be changed from the **Unit Options** screen. Within a particular unit, the branching is selected by the author. There are two main points from which this can be done: (1) within a questioning/menu selection, or (2) by selecting "Unit" from the Menu Bar, and clicking on the "Flow" option. Frequently a combination of these two is necessary. Selecting branching options from within a response scheme will be addressed in the "Case Study" section.

To set the desired branching for NEXT, BACK, etc., the author clicks on "Unit" from the Menu Bar, and then selects "Flow" from the Unit Menu (see Figure 12).

A pop-up window as shown below will appear listing ten possible branches that can be set in the unit (see Figure 13).

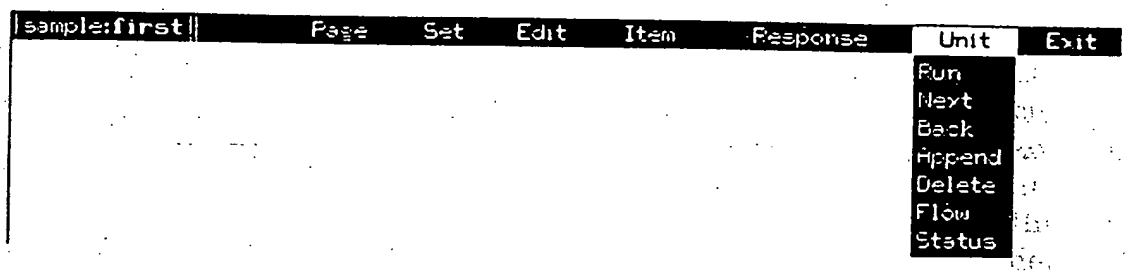

Figure 12. Unit Menu.

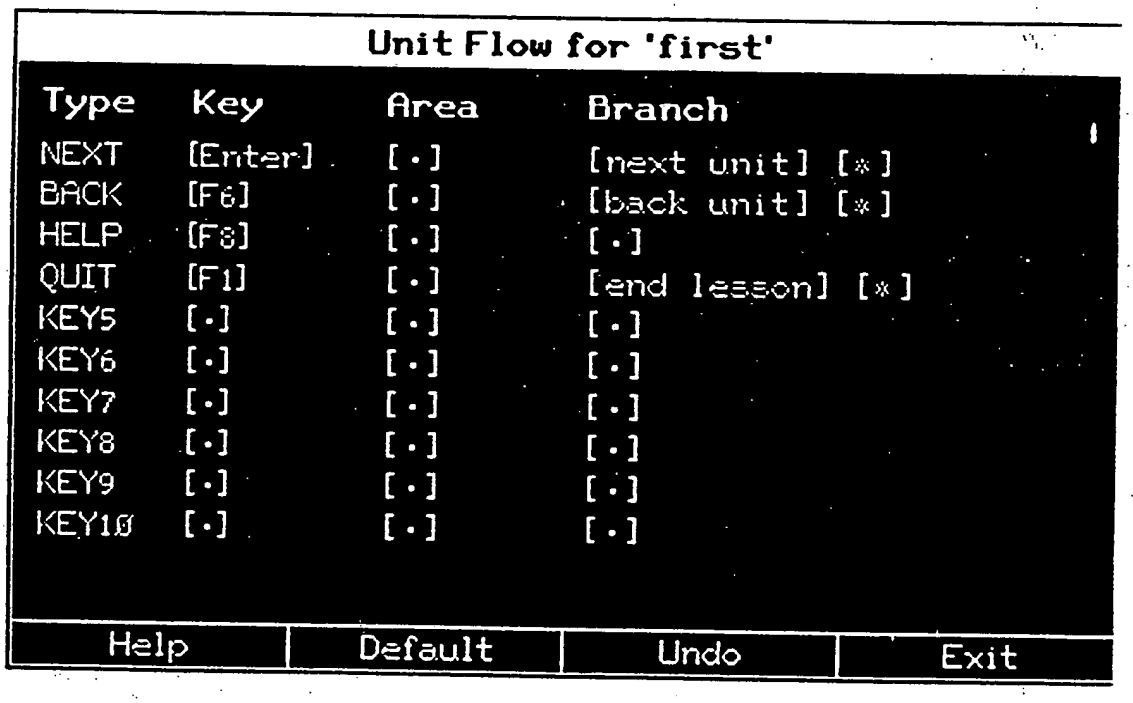

Figure 13. Branches Window.

The first time through, default values will be shown for "Key," "Area," and "Branch." The author may accept these or change them as necessary. To change a selection, the author clicks on the value that currently exists. This will pop-up a window asking for the new information.

Once a unit has been selected, a type of flow must be chosen. To do this, the author must click on the [*] located at the bottom of the pop-up window. A second window will appear prompting the author for a type of flow (see Figure 14).

To select the desired flow method, the author clicks on the choice and then clicks on Exit.

Once the flow method has been selected, clicking on Exit will return the author to the **Unit Editing** screen.

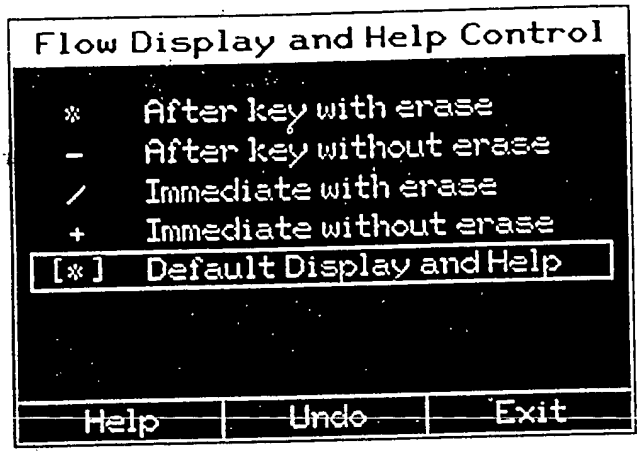

Figure 14. Flow Type.

Running a Unit from the Unit Editing Screen

One of the most functional features of Producer is the ability to quickly test a unit, or series of units, to see exactly what the student will see, while remaining in the authoring mode. The author can, at any moment during the authoring process, run the current unit by selecting the "Unit" option from the Menu Bar, and clicking on "Run." The lesson is executed at the current unit, and may be pathed through if necessary to observe transitions between screens, plotting of screens, and other details that impact on the final "look" but are often impossible to design without actually being seen.

Case Study

Helicopter Maintenance Interactive Videodisc Training (Designed by Analysis & Technology, Inc., for The Royal Australian Navy). To better illustrate authoring in Producer, the following section will cover the details of an actual course designed by Analysis & Technology, Inc., for the Royal Australian Navy. The project called for 70 hours of interactive videodisc computer-based training to instruct helicopter maintenance personnel on basic maintenance theory and practice. A typical unit will be programmed including a video still, a graphical image, instructional text, and a requirement to click on an item to continue. Short-cuts, hints, and special techniques will then be discussed.

Background

The length of time dedicated to authoring for the project was 1.5 years, with approximately 15 hours being delivered every two to three months. The completed courseware would be composed of approximately 200 lessons. The team consisted of three instructional designers, one full-time programmer, two graphic artists (shared with other contracts), and one part-time programmer. Due to the large number of distinct lessons and the multiple number of designers, steps were required up-front to ensure consistency. Conventions were established with respect to lesson style, color schemes, on-screen location of text and graphics, treatment method, etc.

The contract called for simple animation to represent parts moving and fluid flow, and some special routines for matching questions. It was decided to create these in Language Authoring System (LAS) to increase unit flexibility and decrease authoring time. Other than these special units, the bulk of the courseware was created using Producer, with the initial 60 hours authored by a programmer and the final 10 hours authored by the designers themselves.

The Process

All storyboards were authored using Producer, one lesson at a time. When new lessons were created, the previous lesson was simply copied and renamed. The non-standard units were erased, leaving standard tutorial, graphical, video, and questioning units to act as templates for the new lesson information, and ensuring the same default values between lessons. A standard art file was created to hold the generic images used by any lesson. It was decided, as well, that all screens would utilize a template referencing the course, topic, and activity. Each of these items greatly enhanced the consistency between lessons.

After all lessons for a particular deliverable were entered in Producer, the programmer imported the lessons into LAS, created any special routines (animation, matching questions, etc.), and touching-up any inconsistencies left from the initial authoring.

The lessons were then incorporated into the CMI course structure and delivered. The techniques for utilizing TenCORE's CMI go beyond the scope of this chapter, though it is a simple yet powerful course management tool.

Creating the First Lesson

To create the first lesson called FAMIL (short for Familiarization), a subdirectory named FAMIL was created to hold the FAMIL specific lessons and art. From the C:\FAMIL prompt, "TPR" and ENTER starts Producer as a security key was loaded onto the hard drive.

From the **Lesson Options** screen, the "Create" option is selected and the lesson name "FAMIL" is typed (see Figure 15).

When ENTER is pressed, the **Unit Options** screen appears with no units in the Unit Listing area (see Figure 16).

The first important step is to set the default lesson values. To do this, "Defaults" is clicked on, and the screen below is displayed (see Figure 17).

The screen resolution is set at VGA. Background color is black and foreground color is white+ (bright white). The thickness of text characters is set to ON. Text Parameters is left as default. Run Time Options is chosen to modify the flow bar. The flow bar is edited to change NEXT to CONTINUE, HELP to GLOSSARY, and QUIT to MENU to reflect the wishes of the customer. The remaining selections are left as default.

Clicking on "Exit" returns control to the **Unit Options** screen, where the first unit is ready to be entered. The storyboard numbers were used for unit names, so "Create" is selected, the number 100 is typed, and ENTER is pressed.

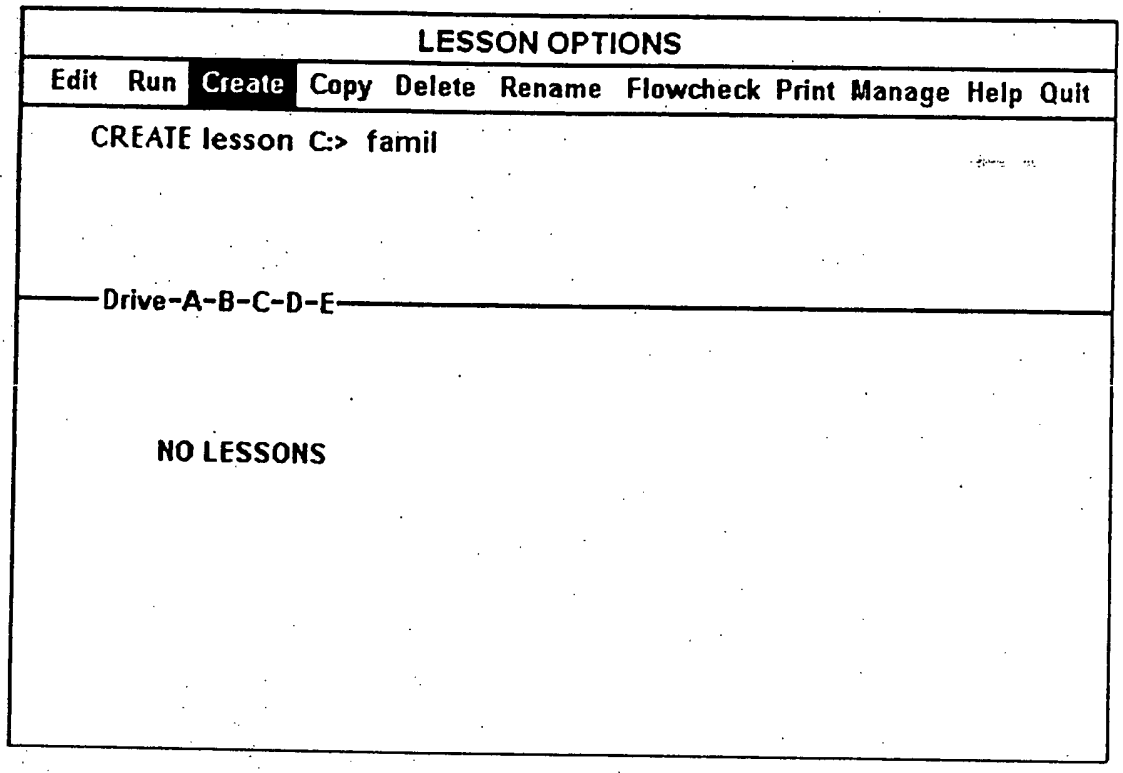

Figure 15. Lesson Name Prompt.

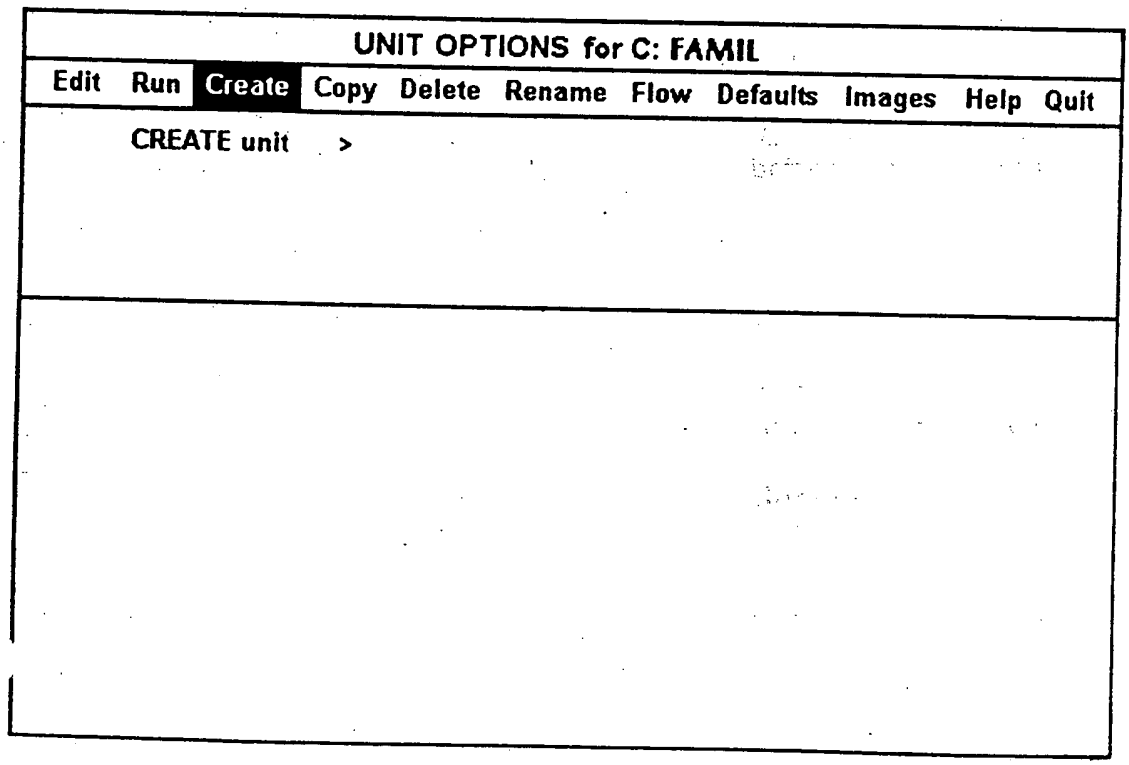

Figure 16. Unit Options Screen.

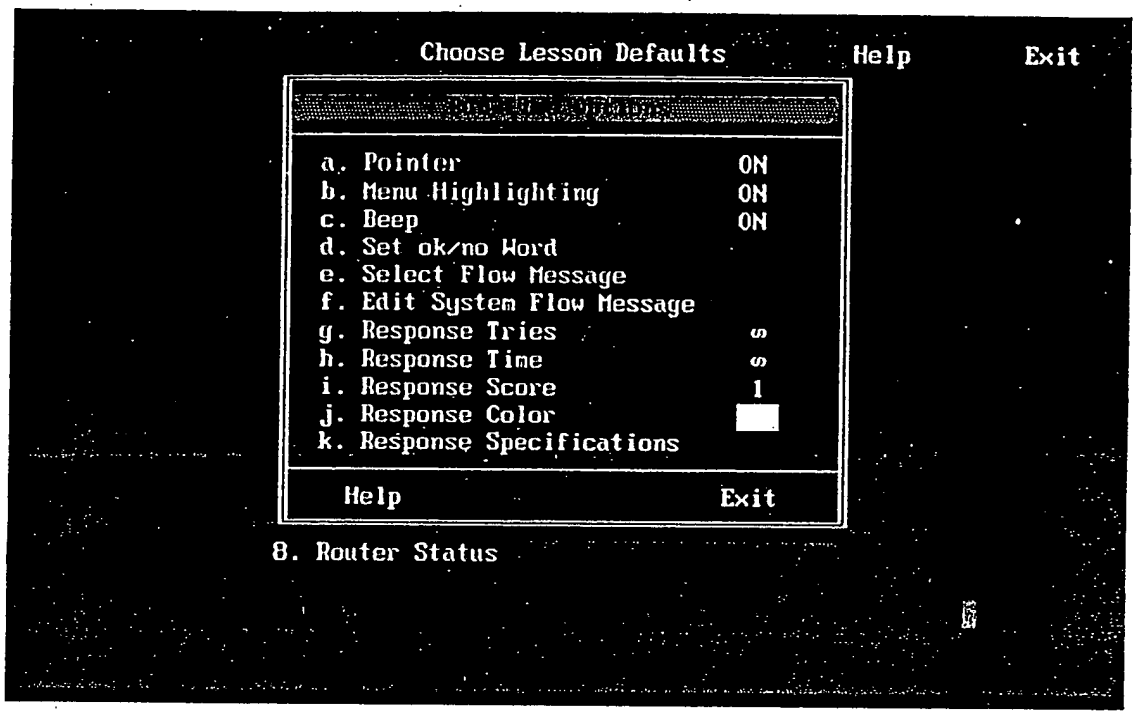

Figure 17. Default Lesson Specification.

Creating a Typical Unit

Unit FIRST is a video still of a component in a window with a graphical image to help locate the component within the larger scheme. It incorporates instructional text describing the function of the component and its location. The student must click on the component on the graphic in order to continue. The screen now looks like Figure 18.

The next step is to import the template from the template art file which was created previously. To import an image, "Item" is selected from the Menu Bar, and "Image" is clicked on. The following pop-up window will be displayed (see Figure 19).

If the lesson name and image name are known, they are typed, separated by a comma. If the lesson and/or image name are not known, clicking on "Directory" locates the lesson containing the templates, and then clicking on the name of the image desired retrieves the image. Once the lesson and image are on the command line, the author presses ENTER, or clicks on "Exit." The image is retrieved and shown on the screen. The pointer is attached to the upper left-hand corner for placement purposes. By moving the mouse, the location of the image can be altered. Once the location is correct, clicking on the left button sets the image. Hint: To make locating large images easier, clicking on the right button after retrieval changes the image to a rectangular outline of it which is easier to place.

The screen now includes the template. The next step will make locating objects easier by displaying the coordinate position of the pointer. To do this,

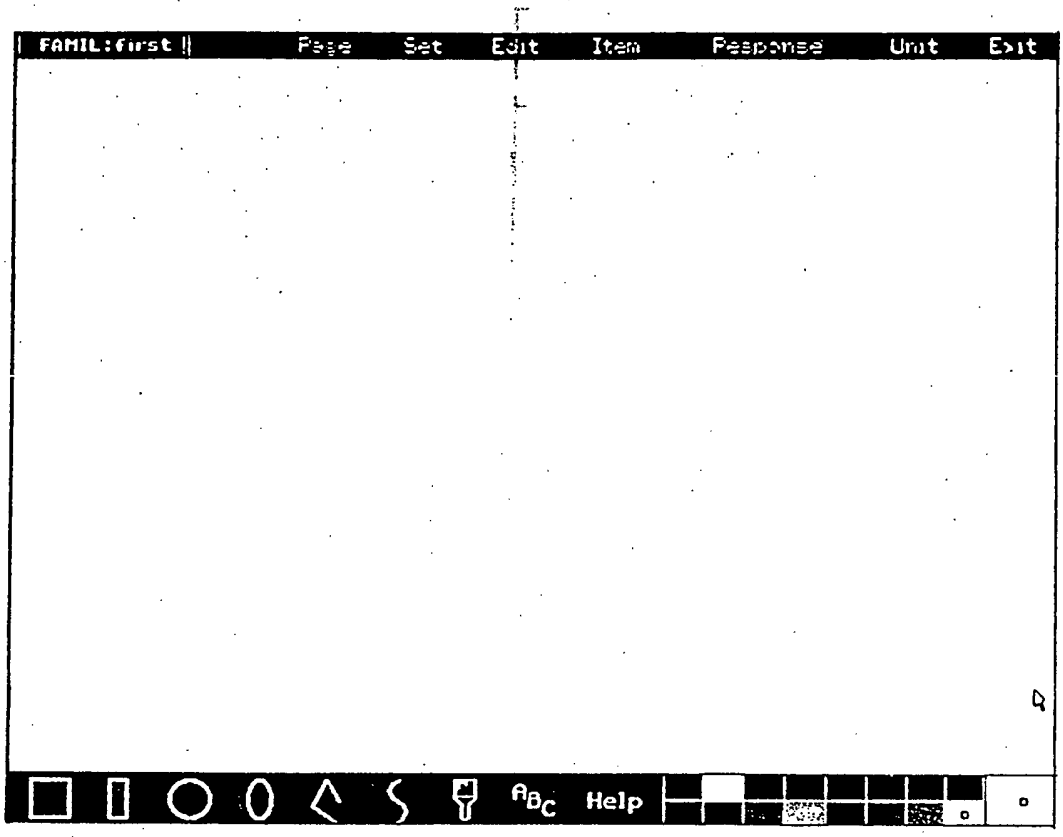

Figure 18. Unit First-Blank.

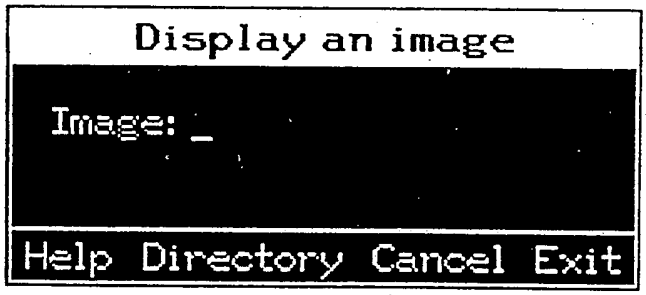

Figure 19. Image Window.

the "Set" option is selected from the Menu Bar, and "Coordinates" is clicked on. The pop-window below will display Figure 20.

Clicking "ON" will cause the coordinates of the pointer to be displayed in a small on-screen window whenever it could be helpful. Clicking on "Exit" returns to editing.

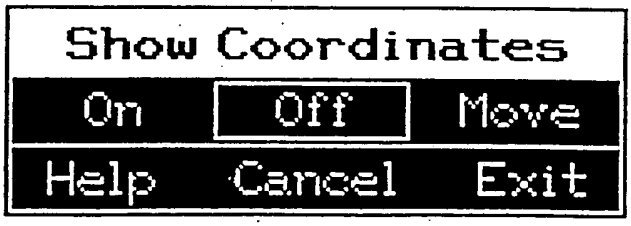

Figure 20. Show Coordinates Window.

Next, the video still must be retrieved. To access a video still, the author clicks on "Item," and then "Still Video." The Video Edit window appears (see Figure 21).

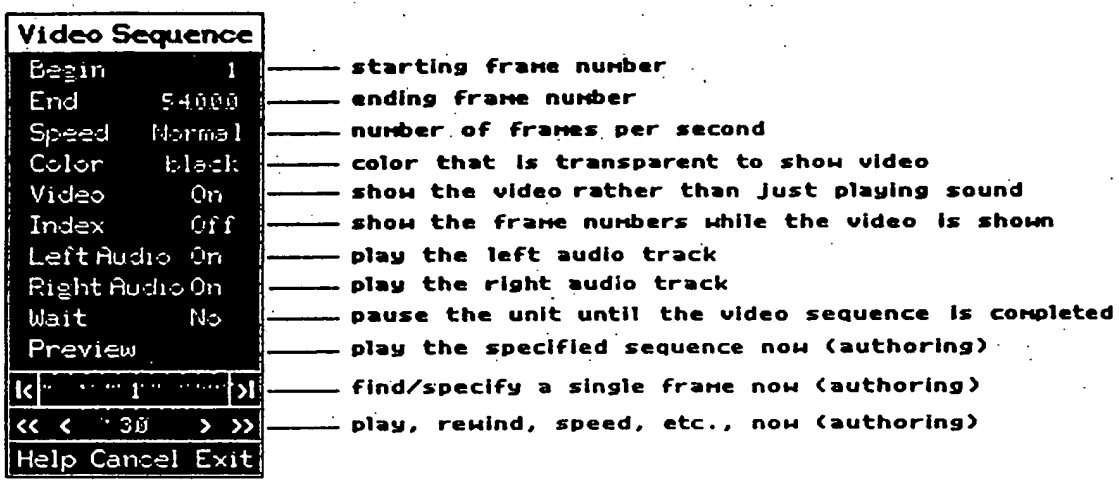

Figure 21. Video Edit Window.

The transparent color must be selected. The template display area is light blue therefore light blue will be the transparent color. Clicking on the current color will display a color bar similar to the one at the bottom of the **Unit Editing** screen. The author clicks on light blue, and video will immediately be displayed wherever light blue exists on the screen.

Next, the correct still must be located. If the number of the frame is known, the author can click with the right button on the current number, back-up over the old number, and type the new number. When ENTER is pressed the new still will display. If the frame number is not known, using the lower portion of the Video Edit window allows the author to search for the correct still. Clicking on "Index" will cycle the index display on or off. When the correct still is found, clicking with the left button on the current frame number will load the new number. Clicking on "Exit" returns to editing.

The next step is to add the instructional text to the screen. The text area is to be located across the top of the template display area. Since the default color is white+, and this is the chosen text color, clicking on the "ABC" tool will bring up the text input box. The box is sized by holding down the right button and rolling the mouse. Moving the mouse without holding the right button down will move the entire box. Clicking on the left button set its size and location. The text menu bar will appear. At this point, the text could be modified or moved. To accept the text as is the author clicks on "Exit."

The next step is to import the graphic of the helicopter. Following the same procedure as above, the image is retrieved and located at a visually functional area with respect to the video and text areas of the screen (see Figure 22).

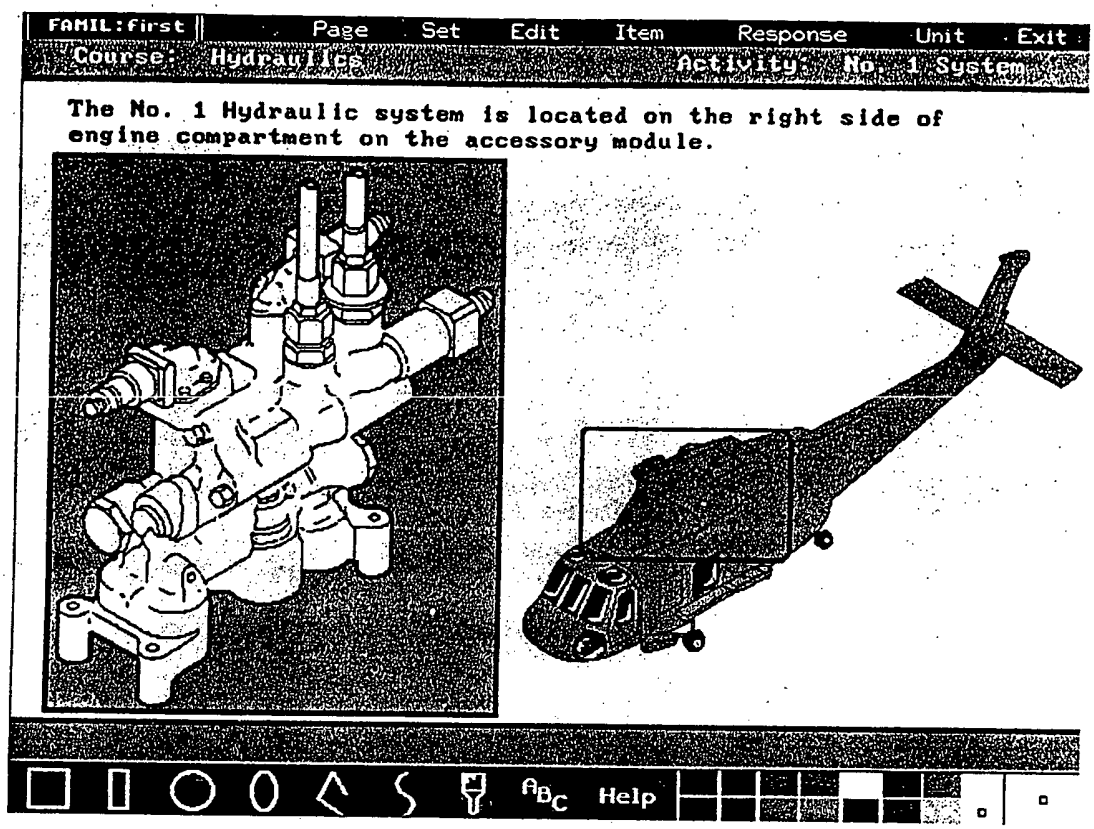

Figure 22. Unit-First with Video, Graphics, and Text.

The last object that must be added is another text object in the student prompt area to tell the student what to select to continue. This is created using the same techniques described above (see Figure 23).

The functionality of the screen must be set to force the student to click on the area on the helicopter image where the video displayed component is located. To accomplish this, the author clicks on "Responses" to pull down the Response Menu. Since this is not a scored question, but merely a branching opportunity, "Menu" is selected. The pop-up window for defining a menu flow is displayed (see Figure 24).

There are three functional columns on this window. The "Key" column allows the author to select a key the student may press to branch, the "Area" column allows the author to define an area the student must click on to branch, and the "Branch" column defines the unit to branch to after a given key press or mouse click.

For this unit, only one area and no key presses must be defined. Clicking on the "." under the "Area" column turns the pointer into a sizable box. Using the same techniques as with the text input box, the box is moved to the desired object the student must select, and sized appropriately. Clicking on the left button accepts the box size. Producer will automatically produce a second box, anticipating the author would want more than one area. In this case, however, one is all that is needed. To eliminate the second box, the author clicks on both buttons at the same time.

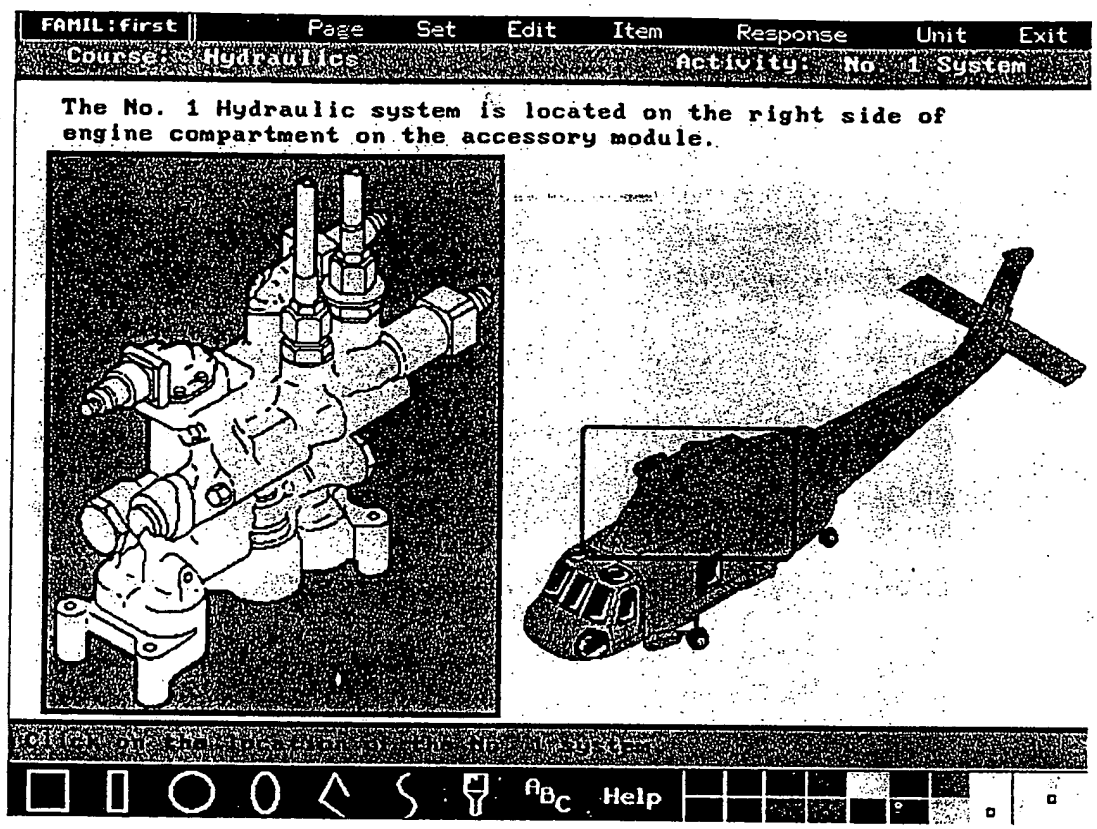

Figure 23. Unit-First with a Student Prompt Added.

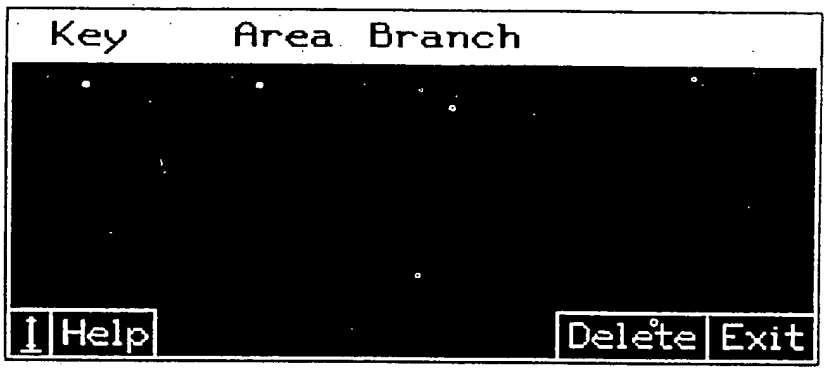

Figure 24. Menu Flow Window.

Next, the author sets the unit to be branched to by clicking on the ":" under the "Branch" column, and the pop-up window for unit selection will be displayed. Choosing "next unit" by clicking on it, and then clicking on "Exit" to return to the Menu window, sets the required branch. Since all that is needed is one area, the author can click on "Exit" to return to editing.

The last step in the creation of this initial unit is to establish the default flow for the lesson. To accomplish this, "Unit" is selected from the Menu Bar, and the author clicks on "Flow." The "Unit Flow" window will appear as is shown in Figure 25.

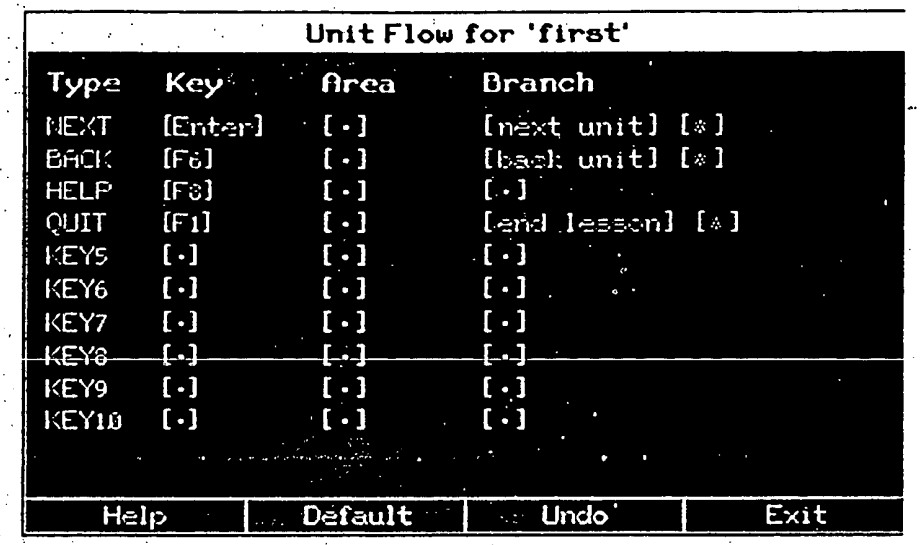

Figure 25. Unit Flow Window.

The author clicks on the "Default" box at the bottom of the window. Another similar window will display showing the default settings (see Figure 26).

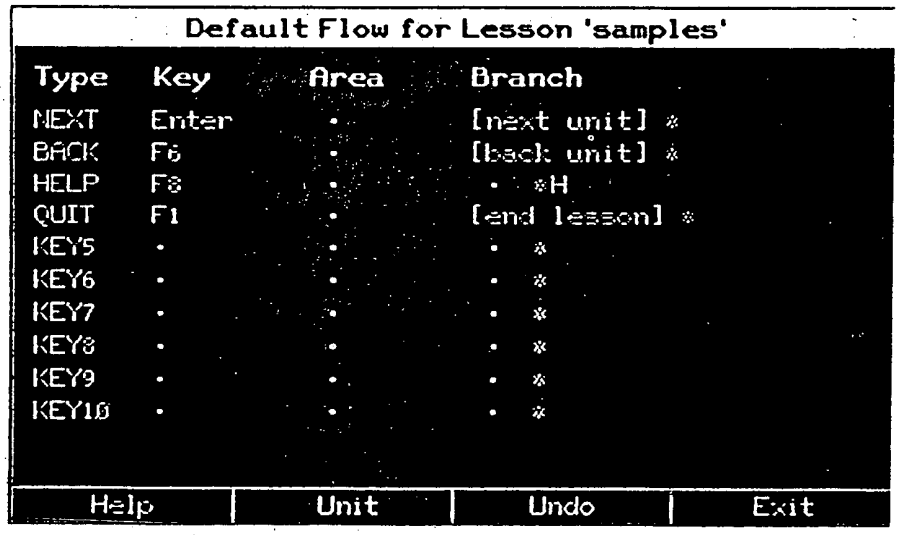

Figure 26. Unit Flow Default Settings.

All of the flows are correct except the HELP flow. To modify this, the author clicks on the "·" in the HELP row, under the Branch column. This will display a prompt to select a branch. The desired branch is typed, and "Exit" is clicked on. The author clicks on Exit again to return to the **Unit Editing** screen. The default branching is now set for the entire lesson.

Clicking on "Unit," and then "Run" executes the unit. While executing a unit, pressing SHIFT-F1 will quit and return control to the **Unit Editing** screen.

No other changes are required, so the author can click on "Exit" to return to the **Unit Options** screen.

Special Considerations/Hints

A large portion of this project utilized video. Though the DVA-4000 digitizing card was incorporated, allowing video manipulation, on-screen spacing was a big problem when combining text, video, and graphics. For instance, video can be shot with a text area in mind; however, it is not always possible to avoid critical objects in the video creeping into the defined text area. Since research indicates that text area on a screen should remain consistent from screen to screen, conflicts will arise. A decision on alternative methods to handle these conflicts made at the start of the project will greatly aid in the effort for consistency and professional appearance.

The old saying "Don't reinvent the wheel!" holds true for authoring in Producer. In large projects, authors should utilize Producer's capabilities to copy lessons and units, and the ability to append unit contents to duplicate similar screens. Once the initial few lessons were created in this project, the only units started from scratch were content-specific, specialized units. Also, CTC runs a bulletin board whereby authors can get actual lessons, libraries, tips, and help with problems that others have already solved.

Coming up to speed in Producer is relatively quick; however, utilizing the full capabilities of the system takes time, and an application. The literature provided by CTC is excellent, but there are some things that must be experienced, and the only way to experience those "things" is through authoring an application.

Finally, LAS is a programing language, however, many of its statements and features operate at a sufficiently high level that an experienced designer with authoring background should not be fearful of venturing into it. It can be learned by non-programmers, and CTC provides wonderful support.

Version 2.0

Version 2.0 is an upgrade of what is already an excellent product. CTC has enhanced the look to be more pleasing to the eye. It has modified the interface to eliminate most of the awkward typing/keypress/typing combinations in Version 1.2. The new animation feature allows for multiple object animations, questioning routines while animation is active, selectable color pass-over to give a three dimensional look to routines, and many other features, all from a simple, non-programming interface. Finally, the incorporation of the "programmable object" allows the author to take advantage of a programmer-created object, without concern about how it works, just as if it were part of the Producer system itself. In all, the new version should be well received by the TenCORE faithful.

Summary

Producer is an excellent tool to create sophisticated computer-based training, allowing access to virtually any multimedia tool. It has sufficient depth to handle intricate requirements, yet enough simplicity to allow the designer to author. It comes with an excellent support line, and products such as LAS allow designers to by-pass any dead-ends they may encounter.

It does not have the built-in features other systems have such as Quest's screen dissolves for transitions, or Icon Author's Smart Text capabilities. These functions would require imagination, and, probably, programming in LAS, to accomplish. However, as a powerful, thoroughly developed DOS-based multimedia authoring tool, Producer is, we think, as good as they come.

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